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NOISE ELEMENT

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Lemon Grove General Plan

# Noise Element

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## INTRODUCTION

### Implementing the Vision

The Vision for the Future calls for sustaining our small town feeling and protecting the established residential neighborhoods. Quiet, peaceful conditions contribute to the pleasant community we enjoy. Because traffic and active commercial and business centers can generate obtrusive noise, protecting the quiet environment requires careful, long-range planning.

### Purpose

State planning law requires California cities to adopt specific elements in their general plans. The Lemon Grove Noise Element fulfills the state planning mandate for the noise element, as defined in the Government Code Section 65302(f) and Health and Safety Code Section 46050.1. The requirements for the noise element include estimating existing and future noise levels and establishing guidelines to minimize noise impacts to the community.

### Scope

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*"...the plan to protect the community from noise and maintain quiet conditions."*

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The Noise Element establishes the plan to protect the community from noise and maintain quiet conditions. Noise is defined as unwanted sound and results from heavy traffic, commercial establishments, machinery, air conditioning systems, industrial operations and landscaping equipment. Noise patterns often reflect land use patterns. In Lemon Grove, noise is greatest around the SR-94 freeway and the Broadway commercial corridor, reflecting the concentration of transportation, commercial and light industrial uses. The Safety Element sets forth a plan to minimize the effect of noise on residences, schools, parks and other areas that need quiet environments.

The Noise Element is organized into three sections: 1) Introduction, 2) Objectives and Policies and 3) Plan. This Introduction explains the relationship between the element and the *General Plan* Vision for the Future, state planning requirements, and related plans and programs. In the section entitled Objectives and Policies, local noise issues are summarized and then objectives and policies addressing the issues follow. An *objective* represents the desired end point or goal while a *policy* signifies a broad, general rule or course of action to achieve the objective. All of the goals and objectives are extensions of the Vision for the Future.

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INTRODUCTION

The Noise Plan - the final section of the element - directly builds on the objectives and policies. The plan describes the framework for achieving the objectives and policies and summarizes the programs that will protect the community from obtrusive noise and ultimately realize the Vision for the Future. Specific implementation measures for the Noise Element are provided in the *General Plan Implementation Manual*. All of the objectives and policies in this element are directly represented by one or more implementation programs.

**Related Plans and Programs****California Environmental Quality Act (CEQA)**

The California Environmental Quality Act (CEQA) of 1970 requires thorough analysis of the environmental impacts of proposed development, infrastructure and planning projects. Prior to approving a project, the CEQA process requires assessing potential environmental impacts and identifying mitigation measures to reduce the impacts to acceptable levels. Assessing and minimizing potential noise impacts is required by CEQA.

**California Noise Insulation Standards (Title 24)**

The California Noise Insulation Standards, (Title 24, Part 2, California Code of Regulations, often referred to as "Title 24"), establish an interior noise standard of 45 decibels or less (dB - CNEL or Ldn) for the interiors of residences. When residential development is proposed with noise contours of 60 dB or greater from freeways, expressways, parkways, major streets, thoroughfares, rail lines, rapid transit lines or industrial noise sources, an acoustical study must be prepared. The study must show that the building is designed to reduce the interior noise level to 45 dB or lower.

**Lemon Grove Noise Abatement and Control Ordinance**

The Lemon Grove Noise Abatement and Control Ordinance (Chapter 9.24 of the Municipal Code) regulates noise from a variety of sources and helps maintain quiet conditions. The ordinance regulates how much noise local activities can generate, and the allowable hours of operation of some noisy activities. Noise sources regulated by the ordinance include motor vehicles, trash trucks, powered model vehicles, construction equipment, food trucks and multiple-family dwelling units in addition to noise-producing activities such as the use of honking, loudspeakers, steam whistles, hawkers and peddlers, and barking dogs.

### **Planned SR-125 Freeway**

Caltrans has finalized the environmental documentation and approved the construction of the State Route 125 (SR-125) freeway project. The new freeway will generally follow the existing path of Sweetwater Road, and comprise Lemon Grove's eastern boundary once completed. In the area of the existing intersection of Sweetwater Road and Broadway, an elevated interchange reaching 80 to 100 feet above the existing grade will connect the SR-125 to the existing SR-94 freeway. The Environmental Impact Report prepared for the freeway identifies significant noise impacts to Lemon Grove neighborhoods bordering the project corridor. Caltrans will primarily mitigate the impacts by constructing sound barriers. Freeway construction in the Lemon Grove area is scheduled to commence in mid-1988.

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# Noise Element

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## OBJECTIVES AND POLICIES

### **Quiet Neighborhoods**

Most of the neighborhoods in the City enjoy quiet and peaceful conditions. The established land use pattern with segregated commercial, light industrial, transportation and residential areas contributes to low noise levels in the neighborhoods.

**Objective 1.0:** *Quiet and peaceful neighborhoods.*

**Policy 1.1:** Maintain the existing land use pattern, where the established neighborhoods are generally separated from activities that generate noise.

**Policy 1.2:** Limit new multi-family residential development in the established neighborhoods.

**Policy 1.3:** Work to stabilize traffic volumes in the neighborhoods.

### **Transportation Noise**

Noise is generated by the transportation corridors in and around the City, particularly the SR-94 freeway, Broadway and the trolley. The planned SR-125 freeway will increase noise levels in the eastern part of the City.

**Objective 2.0:** *Protection of residential and public areas from transportation noise.*

**Policy 2.1:** Avoid residential uses near major transportation corridors unless interior noise levels can be reduced to acceptable levels.

**Policy 2.2:** Pursue construction of noise barriers along the freeway to protect residential areas.

**Policy 2.3:** Monitor appropriate noise mitigation for the SR-125 freeway.

**Policy 2.4:** Encourage enforcement of vehicle noise standards and speed limits.

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OBJECTIVES AND POLICIES

**Policy 2.5:** Promote reduction of unnecessary trolley noise.

**Downtown Village and  
Massachusetts Station**

The Downtown Village and Massachusetts Station are planned for a mix of shops and stores, restaurants, office, condominium and apartment buildings.

**Objective 3.0:** *Quiet living areas for residents of the Downtown Village and Massachusetts Station.*

**Policy 3.1:** In mixed use areas, plan for acceptable interior noise levels.

**Other Noise Sources**

Noise is also generated by other sources, such as construction operations, commercial and industrial activities, and loud music. These sources of noise are often referred to as "stationary" sources.

**Objective 4.0:** *Minimal intrusions from stationary noise sources.*

**Policy 4.1:** Locate new noise-generating uses away from sensitive uses, such as residences and schools.

**Policy 4.2:** Enforce noise ordinances and update as necessary to address new noise concerns.

# Noise Element

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## PLAN

### Overview

The Noise Plan sets forth strategies to maintain quiet and peaceful conditions and control exposure to noise. An explanation of noise characteristics is followed by a description of existing and future noise conditions and specific noise-reduction strategies.

### Definitions and Standards

#### Sound and Noise Measurements

Sound consists of mechanical energy transmitted by pressure waves in a compressible medium such as air, and noise is defined as unwanted sound. Parameters that characterize sound include the rate of oscillation of sound waves, distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of sound. The sound pressure level has become the most common descriptor of loudness.

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*"...noise is defined as unwanted sound ...The decibel (dB) scale quantifies the sound intensity..."*

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The decibel (dB) scale quantifies the sound intensity or loudness. Because sound pressure can vary millionfold within the range of human hearing, the dB scale consists of a logarithmic progression very similar to the Richter Scale used for earthquake magnitude. Because the human ear is more sensitive to some sound frequencies more than others, sound descriptions are weighted in a process called "A-weighting," written as dB(A). In A-weighting, the middle A and its higher harmonics are weighted reflecting humans increased sensitivity to this range. Because people are also more sensitive to unwanted noise during the evening at night, state planning law requires adding an artificial dB increment to quiet time noise levels in a 24-hour noise descriptor, called the Community Noise Equivalent Level (CNEL). In practical terms, the CNEL measures the average sound occurring in a given area over a 24-hour period.

#### Noise Conditions

In Lemon Grove, noise is primarily caused by traffic on the SR-94 freeway and local roadways. The commercial and light industrial activity on Federal Boulevard and Broadway in addition to the trolley also incrementally contribute to local noise levels. Noise levels can be





Lemon Grove Rodeo billboard (held at St. John's Church), circa 1954. Photo courtesy of Lemon Grove Historical Society.

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*"In Lemon Grove, noise is primarily caused by traffic on the SR-94 freeway and local roadways."*

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estimated based on traffic volumes and represented as "noise contours." A noise contour indicates the area subject to a particular volume of noise. For example, the area between the 65-dB and 70-dB contour is subject to noise ranging between 65 and 70 dBs.

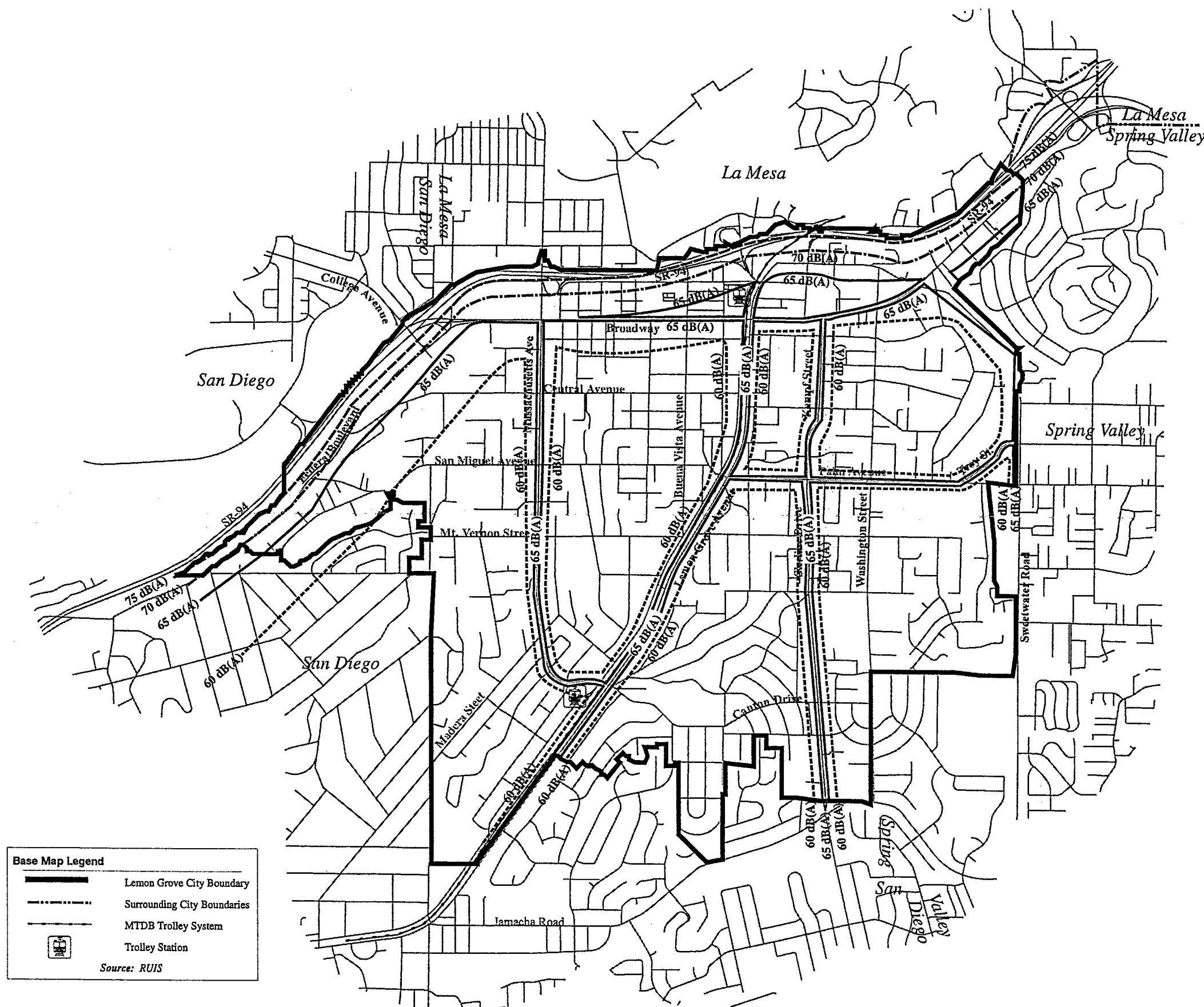
Figure N-1 shows the estimated noise contours in 1995 while Figure N-2 shows the expected contours for 2015. Greater areas in the northern part of the City will be affected by noise in the 65 dB(A), 70 dB(A) and 75 dB(A) levels in the future and neighborhoods in the eastern part of the City will also experience greater noise. The greater extent of the 2015 contours reflects anticipated increases in traffic volumes on SR-94 and local roads in addition to operation of the planned SR-125 freeway and elevated SR-125/SR-94 interchange.

### Noise Planning and Standards

For planning purposes, land uses that generate noise are distinguished from uses that are particularly sensitive to noise. Noise sources include



# Noise Element



**Base Map Legend**

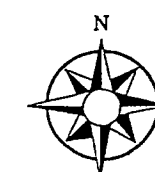
- Lemon Grove City Boundary
- Surrounding City Boundaries
- MTDB Trolley System
- Trolley Station

Source: RUIS

## Legend

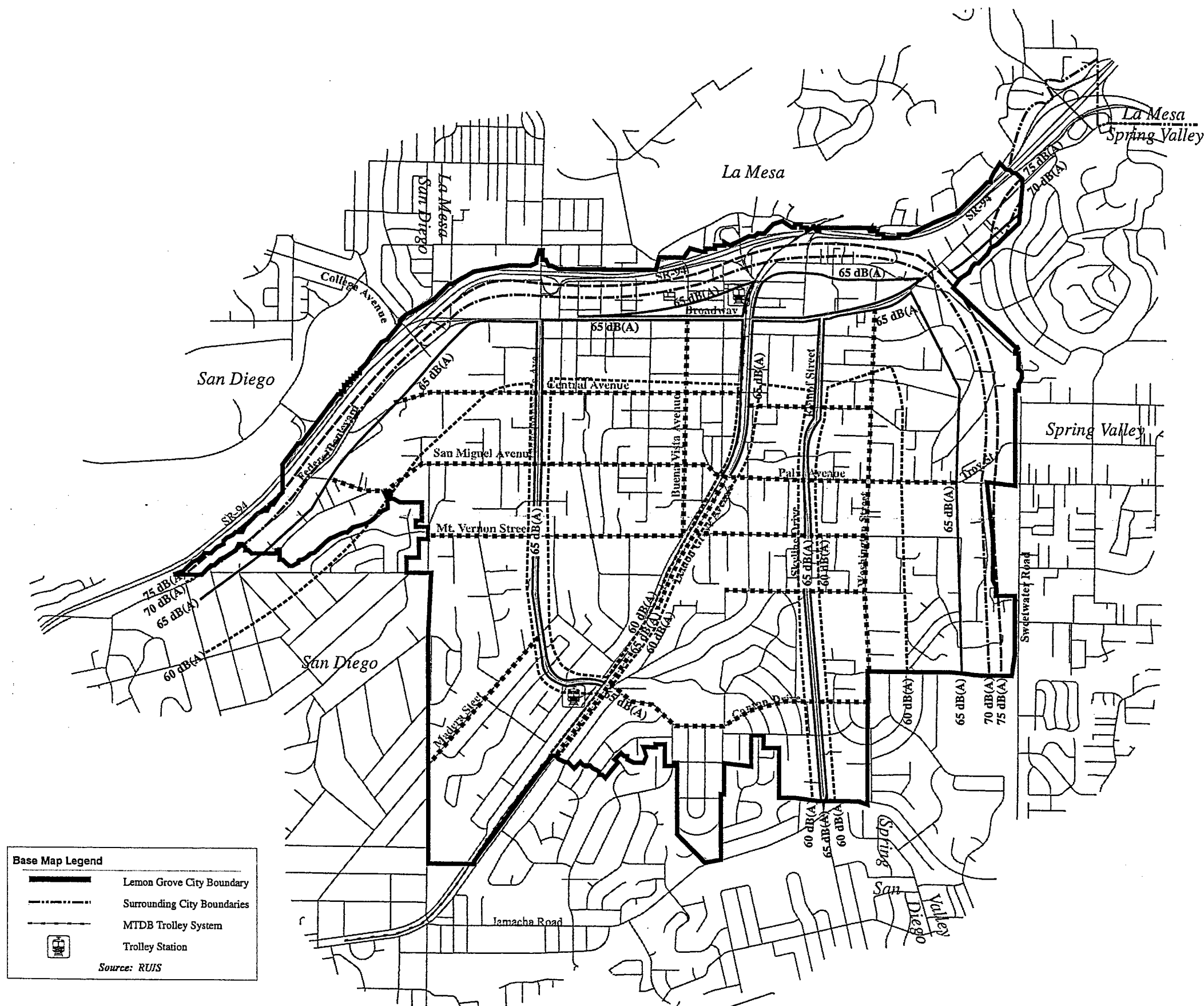
- 60 dB(A) CNEL
- 65 dB(A) CNEL
- 70 dB(A) CNEL
- 75 dB(A) CNEL

Source: Giroux & Associates, 1995



1 inch = 2,000 feet

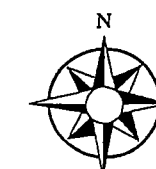
**Figure N-1**  
**1995 Noise Contours**



Legend

- - - - - 60 dB(A) CNEL
- 65 dB(A) CNEL
- · · · · 65 dB(A) CNEL (<50' to Centerline)
- - - - - 70 dB(A) CNEL
- - - - - 75 dB(A) CNEL

Source: Giroux & Associates, 1995



1 inch = 2,000 feet

**Figure N-2**  
**2015 Noise Contours**

traffic, trains, commercial establishments, machinery, air conditioning systems, industrial operations and landscape maintenance equipment. Sensitive noise receptors primarily consist of residences but also include schools, hospitals, parks, libraries and churches. Residents and other sensitive noise receptors can be protected from noise by distancing noise sources. When residential uses are located near major transportation corridors and activity centers, sound levels experienced by residents can be reduced through building design.

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*"The City will implement established noise standards indicating which types of land uses are compatible with varying levels of noise..."*

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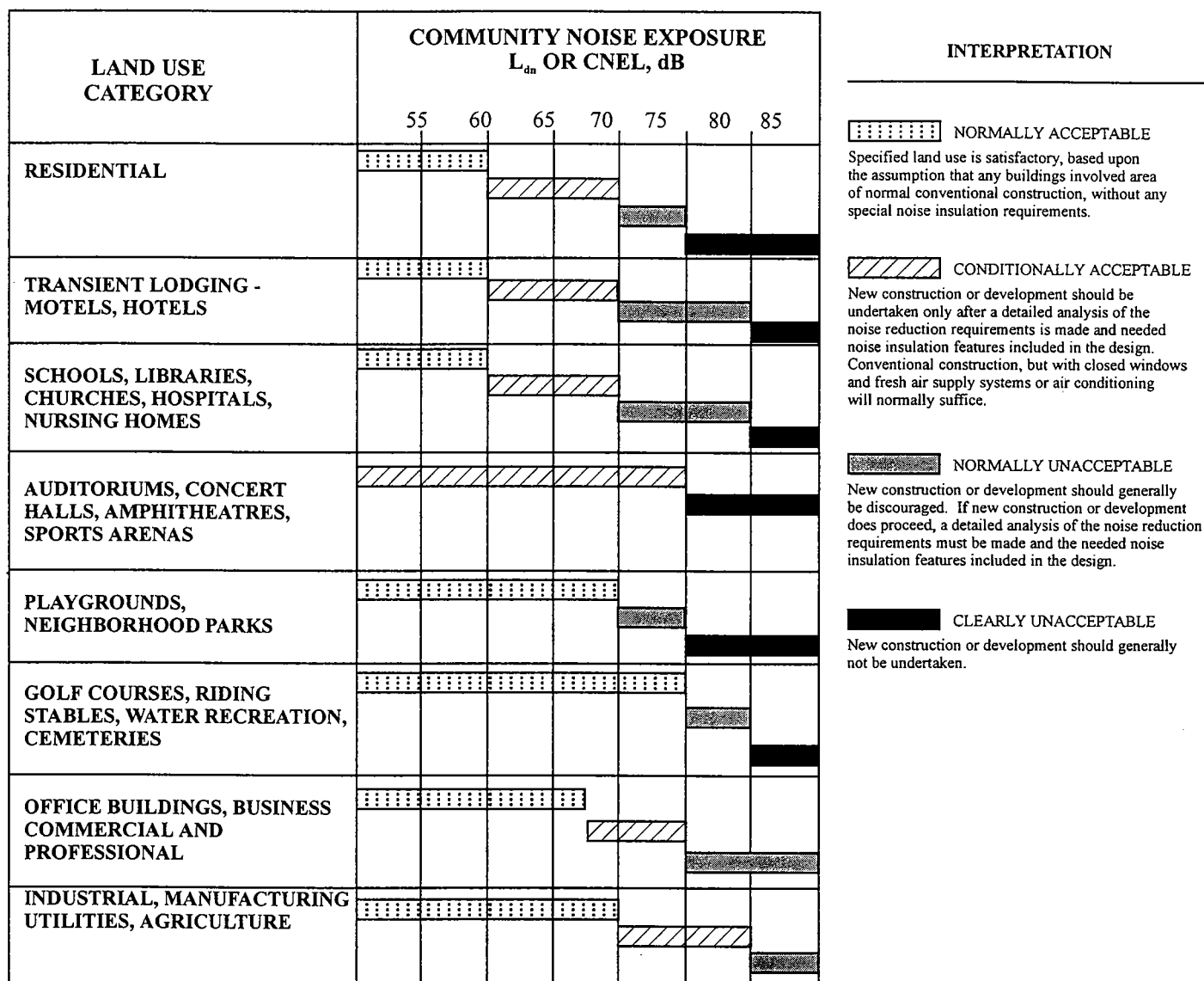
The City will implement established noise standards indicating which types of land uses are compatible with varying levels of noise to the extent feasible. Noise and land use compatibility standards issued by the state serve as the basis for the local standards depicted in Figure N-3. When development projects are proposed, the City will compare the proposed land use type and noise conditions to the standards, and determine the suitability of the development project for that specific site.

The City will also require that all new residential development meet the state Title 24 standard for interior noise levels. Title 24 requires that interior noise levels for both single-family and multiple-family dwelling units equal 45 dB(A) CNEL or less. Furthermore, noise studies will be required for all proposed residential sites in close proximity to automotive traffic, rail or light industrial sources with baseline levels exceeding 60 dB CNEL. As a requisite for project approval, the study must demonstrate that the interior noise level will not exceed 45 dB (A). Interior noise levels in noisy areas can often be reduced to meet the 45 dB(A) CNEL standard through extra insulation, treated windows and ventilation systems. Orienting buildings away from the noise source and using barriers to attenuate noise transmission also help reduce interior noise levels.

As required by the California Environmental Quality Act, the City will review development proposals for noise impacts. Two types of noise impacts can occur: 1) the noise conditions are incompatible with the proposed use and will interfere with the new use, or 2) if the proposed use will generate noise that impacts nearby sensitive noise receptors such as residences, schools, parks, churches and the library. For all identified impacts, the project must incorporate measures to ensure appropriate noise conditions.



## Noise Element





*Troxell house, near corner of Olive Street and Central Avenue, circa 1900. Photo courtesy of Lemon Grove Historical Society.*

### Quiet Neighborhoods

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*"Lemon Grove residents enjoy quiet conditions largely due to the established land use patterns."*

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Lemon Grove residents enjoy quiet conditions largely due to the established land use patterns. The best way to preserve quiet in the neighborhoods is to limit development of land uses that generate noise either within or adjacent to the neighborhoods. Commercial, light industrial and transportation activity is primarily concentrated in the northern part of the City, away from the neighborhoods. This provides quiet conditions for residents. The Land Use Plan in the Community Development Element - the guide for future development - reinforces this land use pattern in part to protect the established neighborhoods.

Because traffic comprises the primary source of noise in Lemon Grove, traffic in the neighborhoods will be restricted. The Circulation Plan in the Mobility Element sets forth a hierarchical system of arterials and collectors to efficiently direct traffic through the City and around the neighborhoods. Primary objectives of the Circulation Plan design include reducing traffic volumes and speeds in the neighborhoods.

**Transportation Noise**


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*"Redevelopment  
[north of Broadway]  
will reduce the  
negative noise  
effects associated  
with the freeway."*

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**Freeway Noise**

The primary source of noise in Lemon Grove is generated by vehicle traffic traveling on the SR-94 freeway and local thoroughfares. Minimizing noise problems requires addressing the effects of noise from the freeways and local traffic. The SR-94 freeway comprises the northern boundary of the City, and the freeway traffic elevates noise levels north of Broadway. Most of the development exposed to freeway noise consists of commercial and light industrial uses and is not adversely impacted. The residential neighborhood abutting the freeway, between Corona Street and Vista Way, experiences excessive noise. However, this area is planned to transition to commercial development, according to the Land Use Plan in the Community Development Element. Redevelopment will reduce the negative noise effects associated with the freeway.

The Land Use Plan calls for the maintenance of other existing residential uses near the freeway, east of Lemon Grove Avenue. Additional apartment and condominium development is also encouraged in these areas. Future residential development affected by freeway noise must comply with the Title 24 standards. Furthermore, the City will request that Caltrans construct noise barriers along the SR-94 right-of-way to improve the living environment.

Construction and operation of the planned SR-125 freeway, which will form the City's eastern boundary, will significantly increase noise levels in nearby areas. Both residences and schools near the freeway corridor will be adversely affected. The Environmental Impact Report for the freeway project requires mitigation programs to reduce the noise effects, primarily through the use of noise barriers. The City will monitor planning and construction of the freeway to help make sure that all of the required mitigation measures are properly implemented.

**Trolley Noise**


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*"...the trolley is  
audible in close  
proximity to the  
tracks."*

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The East County Trolley Line, operated by the Metropolitan Transit Development Board (MTDB), extends north to south through the center of town. When traveling through Lemon Grove, the trolley is audible in close proximity to the tracks. With the exception of the necessary warning horns and audible crossing gates, electric trolleys are relatively quiet. The intermittent nature of operations does not significantly increase daily average noise exposure. However, local residents have expressed concerns about the noise from trolley operations. The City will identify

objectional sources of trolley noise along with the community and MTDB and develop appropriate measures to reduce noise where feasible.

### **Vehicle Noise**

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*"...actively enforce vehicle noise and speed laws to reduce ambient noise levels."*

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Traffic noise throughout the City is greatly influenced by travel speeds and the adequacy of muffler systems. The state Department of Motor Vehicles (DMV) regulates muffler systems to optimize noise suppression and local law enforcement agencies can cite drivers for violating the DMV noise regulations. Speed limits in Lemon Grove are set and enforced by the Sheriff's Department. The City will coordinate with the Sheriff's Department to actively enforce vehicle noise and speed laws to reduce ambient noise levels.

### **Other Noise Sources**

Activities other than transportation contribute to local noise levels, but to a significantly reduced degree. These sources include construction activity, loud music, landscaping maintenance equipment, alarms, trash trucks and barking dogs. The City's Noise Abatement and Control Ordinance, established to protect the health and welfare of residents, contains regulations to control noise from these sources and many other nuisances. Active enforcement of the ordinance will help maintain quiet conditions. The City should educate the community about the ordinance to encourage conformance as well as reporting of possible violations.

### **Downtown Village and Massachusetts Station STAs**

The Land Use Plan in the Community Development Element identifies redevelopment with mixed uses in the Downtown Village and Massachusetts Station Special Treatment Areas (STAs). A mix of retail, office, public, condominium and apartment development will occur in the Downtown Village STA, and a mix of neighborhood commercial, condominium and apartment development is planned for the Massachusetts STA. The quality of life in mixed use areas can be diminished by excessive noise from the commercial components. The City will require that future residential development within the STAs conforms to the Title 24 interior noise standards and require appropriate measures to reduce noise.